

REMARKS

In the Office Action¹, the Examiner took the following actions:

rejected claims 1, 2, 4, 9, 11, 27, and 28 under 35 U.S.C. § 102(e) as being anticipated by Paton et al. ("Paton") (U.S. Patent No. 6,680,250);

rejected claims 3 and 10 under 35 U.S.C. § 103(a) as being unpatentable over Paton; and

rejected claims 5, 7, 8, 12, 14, 15, 25, 26, 29, and 30 under 35 U.S.C. § 103(a) as being unpatentable over Paton and further in view of Arai et al. ("Arai") (U.S. Patent No. 4,504,323) and Timans et al. ("Timans") (U.S. Patent Application No. 6,951,996).

Claims 1, 2, 5, 7-9, 12, 14, 15, 25-29 are amended; new claims 31-34 are added; and claims 16-24 stand withdrawn. Claims 6 and 13 were previously canceled and, thus, claims 1-5, 7-12, 14, 15, and 25-30 remain under examination.

Claims 1, 2, 5, 7-9, 12, 14, 15, 25-29 are amended to improve readability. Applicant has also amended claims 1, 9, 25, and 26 to even more clearly define the claimed subject matter. Support for the amendments to claims 1, 9, 25, and 26 may be found in, for example, Figs. 1C and 3B and the description thereof in Applicant's specification. Applicant has also added new claims 31-34, which depend from independent claims 1, 9, 25, and 26. Claims 31-34 are added to protect additional aspects of this invention.

Applicants respectfully traverse the rejection of claims 1, 2, 4, 9, 11, 27, and 28 under 35 U.S.C. § 102(e) as being anticipated by Paton.

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization in the Office Action.

In order to support a rejection under 35 U.S.C. § 102, each and every element of each claim in issue must be found, either expressly described or under principles of inherency, in that single reference. Furthermore, “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” See M.P.E.P. § 2131, quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1126, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989).

Claim 1 recites, *inter alia*, “wherein the first impurity is implanted into a semiconductor element forming region formed in the surface layer of the semiconductor substrate including the gate electrode, and an upper portion of an isolation region formed in the surface layer of the semiconductor substrate” (emphasis added).

Paton discloses implanting substantially inert ions into substrate 200 to form amorphous silicon regions 225. Col. 4, lines 60-63; Fig. 2D. Paton, however, does not disclose the claimed “isolation region,” as recited in claim 1. Accordingly, Paton cannot teach “wherein the first impurity is implanted into a semiconductor element forming region formed in the surface layer of the semiconductor substrate including the gate electrode, and an upper portion of an isolation region formed in the surface layer of the semiconductor substrate” (emphasis added).

Paton, thus, fails to teach each and every element recited in claim 1 and does not anticipate claim 1. Claim 9, although of different scope, recites similar elements as claim 1 and is not anticipated by Paton for similar reasons as claim 1. Claims 1 and 9, therefore, should be allowable over Paton. Claims 2, 4, 11, 27, and 28 depend from independent claims 1 or 9 and should be allowable at least due to their dependence.

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 1, 2, 4, 9, 11 and 27-28 under 35 U.S.C. § 102(e).

Applicant respectfully traverses the rejection of claims 3 and 10 under 35 U.S.C. § 103(a) as being unpatentable over Paton because no *prima facie* case of obviousness is established.

The key to supporting any rejection under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. Such an analysis should be made explicit and cannot be premised upon mere conclusory statements. M.P.E.P. § 2142, 8th Ed., Rev. 6 (Sept. 2007). “A conclusion of obviousness requires that the reference(s) relied upon be enabling in that it put the public in possession of the claimed invention.” M.P.E.P. § 2145. Furthermore, “[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art” at the time the invention was made. M.P.E.P. § 2143.01(III), internal citation omitted. Moreover, “[i]n determining the differences between the prior art and the claims, the question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.” M.P.E.P. § 2141.02(I), internal citations omitted (emphasis in original).

“[T]he framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). ... The factual inquiries...[include determining the scope and content of the prior art and]...[a]scertaining the differences between the claimed invention and the prior art.”

M.P.E.P. § 2141(II). "Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art." M.P.E.P. § 2141(III).

In this application, a *prima facie* case of obviousness has not been established because the Office Action has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the claimed invention and the prior art. Accordingly, the Office Action has failed to clearly articulate a reason why the prior art would have rendered the claimed invention obvious to one of ordinary skill in the art.

Claims 3 depend from claim 1 and, thus, incorporates each and every element recited in claim 1. Paton does not teach at least the claimed "wherein the first impurity is implanted into a semiconductor element forming region formed in the surface layer of the semiconductor substrate including the gate electrode, and an upper portion of an isolation region formed in the surface layer of the semiconductor substrate" (emphasis added) as recited in claim 1, and required by claim 3, for the reasons discussed above.

As explained above, the elements recited in independent claim 1, and required by claim 3, are neither taught nor suggested by the cited reference. Consequently, the Office Action has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior art and the claimed invention. Accordingly, no reason has been clearly articulated as to why the claim would have been obvious to one of ordinary skill in the art in view of the prior art. Therefore, a *prima facie* case of obviousness has not been established for independent claim 1 and claim 3 should be allowable at least due to its dependence. Claim 10, which depends

from claim 9, should be allowable for similar reasons as claim 3. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 3 and 10 under 35 U.S.C. § 103(a).

Applicant respectfully traverses the rejection of claims 5, 7, 8, 12, 14, 15, 25, 26, 29, and 30 under 35 U.S.C. § 103(a) as being unpatentable over Paton and further in view of Arai and Timans because no *prima facie* case of obviousness is established.

Claims 5, 7, 12, 14, and 15 depend from independent claim 1 or 9. For the reasons discussed above, Paton at least fails to teach or suggest “wherein the first impurity is implanted into a semiconductor element forming region formed in the surface layer of the semiconductor substrate including the gate electrode, and an upper portion of an isolation region formed in the surface layer of the semiconductor substrate” (emphasis added) as recited in claim 1 and required by claims 5 and 7 (or similar elements recited in claim 9 required by claims 12, 14, and 15).

Arai and Timans fail to cure the deficiencies of Paton. Arai discloses “equipment and a method for annealing semiconductors.” Col. 1, lines 11-12. Timans discloses “methods and systems for heat-treating semiconductor wafers with short, high-intensity pulses, in combination with background heating sources.” Col. 1, lines 14-17. Neither Arai nor Timans disclose the claimed “isolation region.” Accordingly, Paton, Arai, and Timans, either alone or in combination, fail to teach or suggest at least the claimed “wherein the first impurity is implanted into a semiconductor element forming region formed in the surface layer of the semiconductor substrate including the gate electrode, and an upper portion of an isolation region formed in the surface layer of the

semiconductor substrate" (emphasis added) as recited in claim 1 and required by claims 5 and 7 (or similar elements recited in claim 9 required by claims 12, 14, and 15).

Consequently, the Office Action has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior art and the claimed invention. Accordingly, no reason has been clearly articulated as to why independent claims 1 and 9 would have been obvious to one of ordinary skill in the art in view of the prior art. Therefore, a *prima facie* case of obviousness has not been established for claims 1 and 9 and claims 5, 7, 12, 14, and 15 should be allowable at least due to their dependence.

Claims 25 and 26, although of different scope, recite similar elements as claims 1 and 9. Thus, Paton, Arai, and Timans, either alone or in combination, also fail to render claims 25 and 26 obvious for similar reasons as those discussed above with respect to claims 1 and 9. In addition, claims 29 and 30 that depend from claim 26 should also be allowable over the prior art at least due to their dependence.

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 5, 7, 8, 12, 14, 15, 25, 26, 29, and 30 under § 103.

New claims 31-34 depend from independent claim 1, 9, 25, or 26, and should be allowable at least due to their dependence. Accordingly, Applicant submits that claims 1-5, 7-12, 14, 15, and 25-34 should be in condition for allowance.

In view of the foregoing, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge
any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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